

NATURAL RESOURCES CONSERVATION SERVICE CONSERVATION PRACTICE STANDARD

PEST MANAGEMENT

(Acre)

CODE 595

DEFINITION

Utilizing environmentally sensitive prevention, avoidance, monitoring and suppression strategies, to manage weeds, insects, diseases, animals and other organisms (including invasive and non-invasive species), that directly or indirectly cause damage or annoyance.

PURPOSES

This practice is applied as part of a Resource Management System (RMS) to support one or more of the following purposes:

- Enhance quantity and quality of commodities.
- Minimize negative impacts of pest control on soil resources, water resources, air resources, plant resources, animal resources and/or humans.

CONDITIONS WHERE PRACTICE APPLIES

Wherever pests will be managed.

CRITERIA

General Criteria Applicable to All Purposes

A pest management component of a conservation plan shall be developed.

All methods of pest management must comply with Federal, State, and local regulations, including management plans for invasive pest species, noxious weeds and disease vectors. Compliance with the Food Quality Protection

Act (FQPA); Federal Insecticide, Fungicide and Rodenticide Act (FIFRA); Worker Protection Standard (WPS); and Interim Endangered Species Protection Program (H7506C) is required for chemical pest control.

Integrated Pest Management (IPM) that strives to balance economics, efficacy and environmental risk, where available, shall be incorporated into planning alternatives. (IPM is a sustainable approach to pest control that combines the use of prevention, avoidance, monitoring and suppression strategies, to maintain pest populations below economically damaging levels, to minimize pest resistance, and to minimize harmful effects of pest control on human health and environmental resources. IPM suppression systems include biological controls, cultural controls and the judicious use of chemical controls.) In Alaska, it may be desirable to employ eradication strategies for newly introduced and isolated populations of pests. Eradication is only feasible where a substantial and stable pest population has not been established.

An appropriate set of mitigation techniques must be planned and implemented to reduce the environmental risks of pest management activities in accordance with quality criteria in the local Field Office Technical Guide. Mitigation techniques include practices like a Filter Strip or Conservation Crop Rotation, and management techniques like application method or timing.

All methods of pest management must be integrated with other components of the conservation plan.

Clients shall be encouraged to pay special attention to all environmental hazards and site-specific application criteria listed on pesticide labels and contained in Extension and Crop Consultant recommendations.

Additional Criteria to Protect Quantity and Quality of Commodities

As an essential component of both commodity-specific IPM and IPM general principles, clients shall be encouraged to use the minimum level of pest control necessary to meet their objectives for commodity quantity and quality. Commodity specific IPM programs are currently unavailable. However, AK Cooperative Extension Service uses IPM principles and pest scouting in their pest management program.

Additional Criteria to Protect Soil Resources

In conjunction with other conservation practices, the number, sequence and timing of tillage operations shall be managed to maintain soil quality and maintain soil loss at or below the soil loss tolerance (T) or any other planned soil loss objective. The current version of the Revised Universal Soil Loss Equation (RUSLE) and the Wind Erosion Equation (WEQ) together with the most current soil survey data will be used to predict soil loss for a given management system.

Clients shall be encouraged to pay special attention to pesticide label instructions for limiting pesticide residues in soil that may negatively impact non-target plants, animals and humans.

Additional Criteria to Protect Water Resources

Pest management environmental risks, including the impacts of pesticides in ground and surface water on humans and non-target plants and animals, must be evaluated for all identified water resource concerns. The NRCS Windows Pesticide Screening Tool (WIN-PST) shall be used to evaluate environmental risks in ground and surface water.

(<http://www.wcc.nrcs.usda.gov/water/quality/commmon/pestmgmt/win-pst-install.html>)

When a chosen alternative has significant potential to negatively impact important water resources, (e.g., WIN-PST “Extra High”, “High” or “Intermediate” soil/pesticide human risk ratings in the drainage area of a drinking water reservoir), an appropriate set of mitigation techniques must be put in place to address risks to humans and non-target plants and animals (e.g., a Filter Strip, Riparian Forest Buffer, Constructed Wetland, Irrigation Water Management or pesticide incorporation may be appropriate mitigation techniques for pesticide solution loss that is impacting a surface water body.)

(See table 1. In the practice specification for a list of effects for mitigation techniques appropriate for each pesticide loss pathway.)

Clients shall be encouraged to pay special attention to pesticide label instructions for limiting pesticide residues in leachate and runoff that may negatively impact non-target plants, animals and humans.

The number, sequence and timing of tillage operations shall be managed in conjunction with other sediment control tactics and practices, in order to minimize sediment losses to nearby surface water bodies. Clients shall be encouraged to give special attention to hazards due to transport of sediment born pesticide residues. Many pesticides will break down slowly in cold soils thus increasing persistence and extending the time period when risk of sediment losses should be considered.

Additional Criteria to Protect Air Resources

Clients shall be encouraged to pay special attention to pesticide label instructions for minimizing volatilization and drift that may negatively impact non-target plants, animals and humans.

Tillage and other cultural practices should be evaluated for impacts on air quality due to wind erosion.

Additional Criteria to Protect Plant Resources

Clients shall be encouraged to pay special attention to pesticide label instructions including those directed at:

- Preventing misdirected pest management control measures that negatively impact plants (e.g., removing pesticide residues from sprayers before moving to the next crop and properly adjusting cultivator teeth and flame burners).
- Appropriate climatic conditions, crop stage, soil moisture, pH, and organic matter in order to protect plant health.
- Limiting pesticide residues in soil that can carry over and harm subsequent crops.

Clients shall be encouraged to diligently follow requirements for prevention of pest resistance when using genetically modified crops in a pest management strategy. Refer to the purchase agreement for specific requirements.

When using biological control agents for weed control, carefully evaluate native and non-native plant populations to determine if negative impacts could result.

Additional Criteria to Protect Animal Resources

Clients shall be encouraged to pay special attention to pesticide label instructions that minimize negative impacts to animals. Special consideration shall be given to maintaining healthy populations of beneficial insects.

When using biological control agents for insect control, carefully evaluate native and beneficial insect populations to determine if negative impacts could result.

Control livestock pests to prevent transfer of pests to wildlife populations.

Additional Criteria to Protect Humans

Clients shall be encouraged to pay special attention to pesticide label instructions that minimize negative impacts to humans.

CONSIDERATIONS

Commodity-specific IPM is not available, therefore the following IPM principles should be considered:

- Prevention, such as using pest-free seeds and transplants, cleaning tillage and harvesting equipment between fields, irrigation scheduling to avoid situations conducive to disease development, etc.
- Avoidance, such as using pest resistant varieties, crop rotation, trap crops, etc.
- Monitoring, such as pest scouting, pest mapping, soil testing, weather forecasting, etc. to help target suppression strategies and avoid routine preventative pest control.
- Suppression, such as cultural, biological and chemical controls, that can reduce a pest population or its impacts. Chemical controls should be used judiciously in order to minimize environmental risk and pest resistance.
- Eradication may be desirable for newly introduced and isolated populations of pests. Eradication is only feasible where a substantial and stable pest population has not been established.

Adequate plant nutrients and soil moisture, including favorable pH and soil conditions, should be available to reduce plant stress, improve plant vigor and increase the plant's overall ability to tolerate pests.

On irrigated land, irrigation water management should be designed to minimize pest management environmental risk.

IPM principles can be applied to urban land, forests, mined land or any other site where pest management is needed.

PLANS AND SPECIFICATIONS

The pest management component of a conservation plan shall be prepared in accordance with the criteria of this standard and shall describe the requirements for applying the practice to achieve its intended purpose(s).

As a minimum, the pest management component of a conservation plan shall include:

- Plan map and soil map of managed site, if applicable (use RMS plan maps if available).

- Location of sensitive resources and setbacks, if applicable (use RMS plan maps if available).
- Environmental risk analysis, with approved tools and/or procedures, for probable pest management recommendations by crop (if applicable) and pest.
- Interpretation of the environmental risk analysis and identification of appropriate mitigation techniques.
- Operation and maintenance requirements.

OPERATION AND MAINTENANCE

The pest management component of a conservation plan shall include appropriate operation and maintenance items for the client. These may include:

- Review and update the plan periodically in order to incorporate new IPM technology, respond to cropping system and pest complex changes, and avoid the development of pest resistance.
- Maintain mitigation techniques identified in the plan in order to ensure continued effectiveness.
- Develop a safety plan for individuals exposed to chemicals, including telephone numbers and addresses of emergency treatment centers for individuals exposed to chemicals and the telephone number for the nearest poison control center. The National Pesticide Information Center telephone number may also be given for non-emergency information:

1-800-858-7378

Monday - Friday

6:30 a.m. to 4:30 p.m. Pacific Time

For advice and assistance with emergency spills that involve agrichemicals, the local emergency telephone number should be provided. The national 24-hour CHEMTREC telephone number may also be given:

1-800-424-9300

For a human poison emergency contact the Poison Control Center:

1-800-222-1222

For an animal emergency contact the national Animal Poison Control Center:

1-800-548-2423

(There may be a fee for service.)

Field offices should record your local poison control center number here:

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- Follow label requirements for mixing/loading setbacks from wells, intermittent streams and rivers, natural or impounded ponds and lakes, or reservoirs. State or local regulations may be more restrictive than label restrictions. It is the responsibility of the pesticide applicator to be aware of and abide by Federal, State, and local regulations.
 - Post signs according to label directions and/or Federal, State, and local laws around sites that have been treated. Follow restricted entry intervals.
 - Dispose of pesticides and pesticide containers in accordance with label directions and adhere to Federal, State, and local regulations.

Field offices record the phone number for the nearest hazardous waste disposal facility here:

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- Read and follow label directions and maintain appropriate Material Safety Data Sheets (MSDS).
 - Calibrate application equipment according to Extension and/or manufacturer recommendations before each seasonal use and with each major chemical change.
 - Replace worn nozzle tips, cracked hoses, and faulty gauges.
 - Maintain records of pest management for at least two years. Pesticide application records shall be in accordance with USDA Agricultural Marketing Service's Pesticide Record Keeping Program and state specific requirements. Contact the Alaska Department of Environmental Conservation for specific record keeping requirements. Contact ADEC Division of Environmental

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Health Pesticide Program Services at 907-745-PEST or 1-800-478-2577

- For information and training in safe and legal pesticide use contact your local

Alaska Cooperative Extension Service office.

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